



55862-CIP

[Sequence Listing]

<110> Takeda Chemical Industries, Ltd.

<120> Novel G protein-coupled receptor protein, its DNA and ligand thereof

<130> 2568US0P-CIP

<150> US 09/831,758

<151> 2001-05-11

<150> PCT/JP99/06283

<151> 1999-11-11

<150> JP 10-323759

<151> 1998-11-13

<150> JP 11-060030

<151> 1999-03-08

<150> JP 11-106812

<151> 1999-04-14

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<151> 1999-06-14

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<150> JP 11-259818

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Ser Asn Leu His Ser Lys Glu Asn Tyr Asp Lys Tyr Ser Glu Pro Arg
35 40 45
Gly Tyr Pro Lys Gly Glu Arg Ser Leu Asn Phe Glu Glu Leu Lys Asp
50 55 60
Trp Gly Pro Lys Asn Val Ile Lys Met Ser Thr Pro Ala Val Asn Lys
65 70 75 80
Met Pro His Ser Phe Ala Asn Leu Pro Leu Arg Phe Gly Arg Asn Val
85 90 95
Gln Glu Glu Arg Ser Ala Gly Ala Thr Ala Asn Leu Pro Leu Arg Ser
100 105 110
Gly Arg Asn Met Glu Val Ser Leu Val Arg Arg Val Pro Asn Leu Pro
115 120 125
Gln Arg Phe Gly Arg Thr Thr Ala Lys Ser Val Cys Arg Met Leu
130 135 140
Ser Asp Leu Cys Gln Gly Ser Met His Ser Pro Cys Ala Asn Asp Leu
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Lys Gln Ser Arg
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gaattaaaag	attggggacc	aaaaaatggt	attaagatga	gtacacctgc	agtcaataaa	240
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agtgtctggag	caacagccaa	cctgcctctg	agatctgga	agaaatatgga	ggtgagcctc	360
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tgcaggatgc	tgagtgattt	gtgtcaagga	tccatgcatt	caccatgtgc	caatgactta	480
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<213> Artificial Sequence

<220>

<223> primer

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<400> 4

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<223> primer

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 Ser Asn Leu His Ser Lys Glu Asn Tyr Asp Lys Tyr Ser Glu Pro Arg
 35 40 45
 Gly Tyr Pro Lys Gly Glu Arg Ser Leu Asn Phe Glu Glu Leu Lys Asp
 50 55 60
 Trp Gly Pro Lys Asn Val Ile Lys Met Ser Thr Pro Ala Val Asn Lys
 65 70 75 80
 Met Pro His Ser Phe Ala Asn Leu Pro Leu Arg Phe Gly Arg Asn Val
 85 90 95
 Gln Glu Glu Arg Ser Ala Gly Ala Thr Ala Asn Leu Pro Leu Arg Ser
 100 105 110
 Gly Arg Asn Met Glu Val Ser Leu Val Arg Arg Val Pro Asn Leu Pro
 115 120 125
 Gln Arg Phe Gly Arg Thr Thr Thr Ala Lys Ser Val Cys Arg Met Leu
 130 135 140
 Ser Asp Leu Cys Gln Gly Ser Met His Ser Pro Cys Ala Asn Asp Leu
 145 150 155 160
 Phe Tyr Ser Met Thr Cys Gln His Gln Glu Ile Gln Asn Pro Asp Gln
 165 170 175
 Lys Gln Ser Arg Leu Leu Phe Lys Lys Ile Asp Asp Ala Glu Leu
 180 185 190
 Lys Gln Glu Lys
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 tatgacaaat attctgagcc tagaggatac ccaaaagggg aaagaagcct caatttttgag 180
 gaattaaaag attggggacc aaaaaatgtt attaagatga gtacacctgc agtcaataaa 240
 atgccacact ccttcgccaa cttgccattg agatttgga ggaacgttca agaagaaaga 300
 agtgctggag caacagccaa cctgcctctg agatctggaa gaaatatgga ggtgagcctc 360
 gtgagacgtg ttcctaacct gccccaaagg ttggggagaa caacaacagc caaaagtgtc 420
 tgcaggatgc tgagtgattt gtgtcaagga tccatgcatt caccatgtgc caatgactta 480
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27

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<220>
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27

<210> 13
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<400> 13
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<210> 14
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<212> PRT
<213> Bovine

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Pro Asn Leu Tyr Ser Lys Lys Asn Tyr Asp Lys Tyr Ser Glu Pro Arg
35 40 45
Gly Asp Leu Gly Trp Glu Lys Glu Arg Ser Leu Thr Phe Glu Glu Val
50 55 60
Lys Asp Trp Ala Pro Lys Ile Lys Met Asn Lys Pro Val Val Asn Lys
65 70 75 80
Met Pro Pro Ser Ala Ala Asn Leu Pro Leu Arg Phe Gly Arg Asn Met
85 90 95
Glu Glu Glu Arg Ser Thr Arg Ala Met Ala His Leu Pro Leu Arg Leu
100 105 110
Gly Lys Asn Arg Glu Asp Ser Leu Ser Arg Trp Val Pro Asn Leu Pro
115 120 125
Gln Arg Phe Gly Arg Thr Thr Thr Ala Lys Ser Ile Thr Lys Thr Leu
130 135 140
Ser Asn Leu Leu Gln Gln Ser Met His Ser Pro Ser Thr Asn Gly Leu
145 150 155 160
Leu Tyr Ser Met Ala Cys Gln Pro Gln Glu Ile Gln Asn Pro Gly Gln
165 170 175
Lys Asn Leu Arg Arg Arg Gly Phe Gln Lys Ile Asp Asp Ala Glu Leu
180 185 190
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tatgacaaat attccgagcc tagaggagat ctaggctggg agaaagaaag aagtcttact 180

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tttgaagaag taaaagattg ggctccaaaa attaagatga ataaacctgt agtcaacaaa 240
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<210> 18
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<400> 18

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Pro His Phe His Ser Lys Glu Gly Tyr Gly Lys Tyr Tyr Gln Leu Arg
 35      40      45
Gly Ile Pro Lys Gly Val Lys Glu Arg Ser Val Thr Phe Gln Glu Leu
 50      55      60
Lys Asp Trp Gly Ala Lys Lys Asp Ile Lys Met Ser Pro Ala Pro Ala
 65      70      75      80
Asn Lys Val Pro His Ser Ala Ala Asn Leu Pro Leu Arg Phe Gly Arg
 85      90      95
Asn Ile Glu Asp Arg Arg Ser Pro Arg Ala Arg Ala Asn Met Glu Ala
100      105      110
Gly Thr Met Ser His Phe Pro Ser Leu Pro Gln Arg Phe Gly Arg Thr
115      120      125
Thr Ala Arg Arg Ile Thr Lys Thr Leu Ala Gly Leu Pro Gln Lys Ser
130      135      140
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145      150      155      160
His Gln Glu Ile Gln Ser Pro Gly Gln Glu Gln Pro Arg Lys Arg Val
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Phe Thr Glu Thr Asp Asp Ala Glu Arg Lys Gln Glu Lys Ile Gly Asn
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agaagaagcc ccagggcacg ggccaacatg gaggcaggga ccatgagcca ttttcccagc 360
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ccccagaaat ccctgcactc cctggcctcc agtgaatcgc tctatgccat gacccgccag 480
catcaagaaa ttcagagtcc tgggtcaagag caacctagga aacgggtgtt cacgggaaaca 540
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<210> 20
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<220>
<223> base sequence encoding RFGR sequence

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<220>
<221> variation
<222> 3
<223> n means any of a, g, t or c.

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<220>
<221> variation
<222> 9
<223> n means any of a, g, t or c.

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<400> 20
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<210> 21
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<220>
<223> base sequence encoding RSGK sequence

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<220>
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<223> n means any of a, g, t or c.

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<220>
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<223> n means any of a, g, t or c.

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<400> 21
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<210> 22
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<213> Artificial Sequence

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<220>
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<220>
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 <222> 6
 <223> n means any of a, g, t or c.

<220>
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<400> 22
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<210> 23
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 <223> n means any of a, g, t or c.

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<220>
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 <223> n means any of a, g, t or c.

<220>

<221> variation
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 <223> n means any of a, g, t or c.

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 <223> n means any of a, g, t or c.

<220>
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 <222> 9
 <223> n means any of a, g, t or c.

<220>
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 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

<400> 27
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25

<210> 28
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 <213> Artificial Sequence

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 <223> primer

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 <212> DNA
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 <223> primer
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 <212> DNA
 <213> Artificial Sequence
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 <223> primer
 <400> 30
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 <211> 21
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> primer
 <400> 31
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 35 40 45
 Gly Ile Pro Lys Gly Glu Lys Glu Arg Ser Val Ser Phe Gln Glu Leu
 50 55 60
 Lys Asp Trp Gly Ala Lys Asn Val Ile Lys Met Ser Pro Ala Pro Ala
 65 70 75 80
 Asn Lys Val Pro His Ser Ala Ala Asn Leu Pro Leu Arg Phe Gly Arg
 85 90 95
 Thr Ile Asp Glu Lys Arg Ser Pro Ala Arg Val Asn Met Glu Ala
 100 105 110
 Gly Thr Arg Ser His Phe Pro Ser Leu Pro Gln Arg Phe Gly Arg Thr

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115 120 125
 Thr Ala Arg Ser Pro Lys Thr Pro Ala Asp Leu Pro Gln Lys Pro Leu
 130 135 140
 His Ser Leu Gly Ser Ser Glu Leu Leu Tyr Val Met Ile Cys Gln His
 145 150 155 160
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 165 170 175
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 180 185

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 gacggaaaat actcccagct gagaggaatc ccaaaaagggg aaaaggaaag aagtgtcagt 180
 tttcaagaac taaaagattg gggggcaaaag aatgttatta agatgagtcc agcccctgcc 240
 aacaaagtgc cccactcagc agccaacctg cccctgagat ttggaaggac catagatgag 300
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 ctgccccaaa ggtttgggag aacaacagcc agaagcccca agacaccgcg tgatttgcca 420
 cagaaacccc tgcactcact gggctccagc gagttgctct acgtcatgat ctgccagcac 480
 caagaaattc agagtcctgg tggaaagcga acgaggagag gagcgtttgt ggaaacagat 540
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<220>
 <223> primer

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<210> 36
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 <212> DNA
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<220>
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 <212> PRT
 <213> Rat

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 20 25 30
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 35 40 45
 Ala Tyr Val Leu Ile Phe Leu Leu Cys Met Val Gly Asn Thr Leu Val
 50 55 60
 Cys Phe Ile Val Leu Lys Asn Arg His Met Arg Thr Val Thr Asn Met
 65 70 75 80
 Phe Ile Leu Asn Leu Ala Val Ser Asp Leu Leu Val Gly Ile Phe Cys
 85 90 95
 Met Pro Thr Thr Leu Val Asp Asn Leu Ile Thr Gly Trp Pro Phe Asp
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			165					170						175				
Ala	Val	Thr	Leu	Thr	Val	Thr	Arg	Glu	Glu	His	His	Phe	Met	Leu	Asp			
			180					185					190					
Ala	Arg	Asn	Arg	Ser	Tyr	Pro	Leu	Tyr	Ser	Cys	Trp	Glu	Ala	Trp	Pro			
		195					200					205						
Glu	Lys	Gly	Met	Arg	Lys	Val	Tyr	Thr	Ala	Val	Leu	Phe	Ala	His	Ile			
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Tyr	Leu	Val	Pro	Leu	Ala	Leu	Ile	Val	Val	Met	Tyr	Val	Arg	Ile	Ala			
	225				230					235					240			
Arg	Lys	Leu	Cys	Gln	Ala	Pro	Gly	Pro	Ala	Arg	Asp	Thr	Glu	Glu	Ala			
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Met	Leu	Val	Met	Val	Ala	Leu	Phe	Phe	Thr	Leu	Ser	Trp	Leu	Pro	Leu			
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	290				295					300								
Leu	His	Leu	Leu	Ser	Val	Tyr	Ala	Phe	Pro	Leu	Ala	His	Trp	Leu	Ala			
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Phe	Phe	His	Ser	Ser	Ala	Asn	Pro	Ile	Ile	Tyr	Gly	Tyr	Phe	Asn	Glu			
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Asn	Phe	Arg	Arg	Gly	Phe	Gln	Ala	Ala	Phe	Arg	Ala	Gln	Leu	Cys	Trp			
		340						345					350					
Pro	Pro	Trp	Ala	Ala	His	Lys	Gln	Ala	Tyr	Ser	Glu	Arg	Pro	Asn	Arg			
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Leu	Leu	Arg	Arg	Arg	Val	Val	Val	Asp	Val	Gln	Pro	Ser	Asp	Ser	Gly			
	370					375					380							
Leu	Pro	Ser	Glu	Ser	Gly	Pro	Ser	Ser	Gly	Val	Pro	Gly	Pro	Gly	Arg			
	385				390					395					400			
Leu	Pro	Leu	Arg	Asn	Gly	Arg	Val	Ala	His	Gln	Asp	Gly	Pro	Gly	Glu			
			405					410						415				
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<210> 38
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 <212> DNA
 <213> Rat

<400> 38
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 tttatcctca acctggccgt cagcgacctg ctggtgggca tcttctgcat gccacaacc 300
 cttgtggaca acctatcac tggttggcct ttgacaacg ccacatgcaa gatgagcggc 360
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<210> 40
<211> 8
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<213> Human

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<210> 43
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<210> 44
<211> 24
<212> DNA
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<400> 44
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<210> 45
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<212> DNA
<213> Human

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 tatgacaaat attctgagcc tagaggatac ccaaaagggg aaagaagcct caattttgag 180
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 tatgacaaat attctgagcc tagaggatac ccaaaagggg aaagaagcct caattttgag 180
 gaattaaaag attggggacc aaaaaatggtt attaagatga gtacacctgc agtcaataaa 240
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 tatgacaaat attctgagcc tagaggatac ccaaaagggg aaagaagcct caattttgag 180
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<220>
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<220>
 <223> primer

<400> 49
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<210> 50
 <211> 203
 <212> PRT
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 35 40 45

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 65 70 75 80
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 Gly Thr Met Ser His Phe Pro Ser Leu Pro Gln Arg Phe Gly Arg Thr
 115 120 125
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 130 135 140
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 His Gln Glu Ile Gln Ser Pro Gly Gln Glu Gln Pro Arg Lys Arg Val
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<220>
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<400> 53
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 <212> PRT
 <213> Human

<400> 54
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